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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,200	06/30/2003	Reiner Eschbach	112221	1199

27074 7590 07/23/2007	EXAMINER
OLIFF & BERRIDGE, PLC. P.O. BOX 19928 ALEXANDRIA, VA 22320	ZHENG, JACKY X

ART UNIT	PAPER NUMBER
2625	

NOTIFICATION DATE	DELIVERY MODE
07/23/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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	Application No.	Applicant(s)
Office Action Summary	10/604,200	ESCHBACH ET AL.
	Examiner	Art Unit	
	Jacky X. Zheng	2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>April 27, 2007</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-12,14,16,18-21,23,25-29,31,33-37,39,41 and 42</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-12, 14, 16, 18-21, 23, 25-29, 31, 33-37, 39 and 41-42</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>September 3, 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   This office action is in response to applicant's amendments and remarks filed on April 27,

2007.

2.   **Claims 1, 14, 16, 18-19, 23, 25-27, 31, 33-35, 39 and 41-42** have been amended.

3.   **Claims 13, 15, 17, 22, 24, 30, 32, 38 and 40** have been cancelled.

4.   **Claims 1-12, 14, 16, 18-21, 23, 25-29, 31, 33-37, 39 and 41-42** are currently pending.

5.   The objections to Claims 18, 26, 34 and 42 are withdrawn in view of Applicant's

amendments to the claims.

6.   The objection to Claim 31 is also withdrawn in view of Applicant's amendment to the

claim.

Terminal Disclaimer

7.   The terminal disclaimer filed on April 27, 2007 disclaiming the terminal portion of any

patent granted on this application which would extend beyond the expiration date of any patent

granted on Application Number 10/739,176 has been reviewed and is accepted. The terminal

disclaimer has been recorded.

Response to Arguments

8.   Applicant's arguments filed April 27, 2007 have been fully considered but they are not

persuasive.

9.   In re Applicant's remarks on Page 8, 5th paragraph, with regard to Claim 31, Applicant

indicated that there appears to be no misspelling of the word "ning" in claim 31. For the record,

the claim objection with regard to claim 31 is based on the version of claims (total of 8 pages)

filed on June 30, 2003, and the misspelling word "ning" is the first word on Page 6, line 1, as

indicated in the previous office action. However, the objection with regard to claim 31 is

withdrawn as indicated above in consideration of the amendment filed on April 27, 2007.

10.   In re Applicant's remarks on Page 9, 2nd and 3rd paragraphs, with regard to the rejection

made under 35 U.S.C. §102(b) over <u>Sharma</u> regarding Claims 1, 19, 27 and 35, Applicant asserts

that (A) "*<u>Sharma</u> nowhere discloses <u>directly deducing</u> the image marking process used from*

spatial characteristic of the printed page" (2nd paragraph of Page 9), (B) "*instant claims 1, 19,*

27 and 35, each recite a method that <u>directly deduces</u> the image marking process used from the

spatial characteristics of the printed image" and (C) "*the process claimed in instant claims 1,*

19, 27 and 35 <u>characterized in fewer steps than Sharma</u> insofar as <u>Sharma requires at least the</u>

<u>additional step</u> of generating a power spectrum and analyzing the power spectrum in order to

obtain the marking process used to generate the image" (3rd paragraph of Page 9). Applicant's

arguments are fully considered by Examiner, however found unpersuasive.

First, with regard to the arguments (A and B) recited above, the limitation of "directly

deduces" is *not specifically* required by the claim languages in the independent claims 1, 19, 27

and 35. In consideration of the broad claim languages (even with the amendments), determining

of the "spatial characteristic of the printed image" from the process of "scanning the printed

image" can be both "*directly*" or "*indirectly*" since the claim languages have no specific

limitations. In addition, a relative limitation such as "directly or indirectly" *without* any specific

descriptions for providing the definition of being "directly or indirectly" will normally be

considered as indefinite for reasons that the scope of such limitations are not able to be

determined.

Also, in consideration of both Applicant's admitting of the disclosure of <u>Sharma</u>,

"involves an image spatial analyzer that analyzes image data corresponding to the image to

determine at least one spatial characteristic based on the power spectrum of the image data and

a marking processing detection system that detects the marking process based on at least one

spatial characteristic" (2nd *paragraph of Page 9 in "Remarks")* and the broad usages of claim

languages (such as: spatial characteristics), the disclosure of <u>Sharma</u> indeed anticipates the scope

claimed in the independent claims 1, 19, 27 and 35.

Second, with regard to Application's argument (C) of *"the process claimed in instant*

claims 1, 19, 27 and 35 <u>characterized in fewer steps than Sharma</u> insofar as <u>Sharma requires at</u>

<u>least the additional step</u> of generating a power spectrum and analyzing the power spectrum in

order to obtain the marking process used to generate the image" (3rd paragraph of Page 9), the

argument is fully considered but considered unpersuasive. As admitted by Applicant, <u>Sharma</u>

discloses "the additional step" in addition to limitations required by the scope claimed in the

independent claims, therefore, <u>Sharma</u> is considered to be *inclusive* of the limitations required by

the claims. Therefore, for at least the reasons set forth above, the rejection made under 35

U.S.C. §102(b) over <u>Sharma</u> with regard to claims 1, 19, 27 and 35 is maintained.

11.   In re Applicant's remarks on Page 10, 3rd and 4th paragraphs, with regard to the rejection

made under 35 U.S.C. §103(a) regarding claims 1-42 (Claims 13, 15, 17, 22, 24, 30, 32, 38 and

40 are cancelled), Applicant asserts that *"<u>Wang</u> does not remedy <u>Sharma</u>'s deficiencies with*

respect to independent claims 1, 19, 27 and 35" and *"nor does <u>Wang</u> or <u>Sharma</u> perform*

analysis of the scanned image directly, <u>without using any additional resources</u>, in order to

identify the marking process used to form the image" and further asserting "Sharma in view of Wang would not have rendered obvious instant independent claims 1, 19, 27 and 35, or any remaining claims depending therefrom". Applicant's arguments are fully considered, however, found unpersuasive. As the grounds of rejection under 35 U.S.C. §102(b) over <u>Sharma</u> with regard to the independent claims 1, 19, 27 and 35 are maintained for the reasons stated above, the required limitations indicated by Applicant is illustrated in the discussion above, to be disclosed by <u>Sharma</u>, therefore not required to be illustrated in <u>Wang</u>. Furthermore, in consideration of the broad claim languages in the instant claims, such as 1, 19, 27 and 35, do not *specifically require* the limitation of "perform analysis of the scanned image <u>directly, without using any additional resources</u>, in order to ...", therefore illustrations or discussions of such limitations are not required at least until further clarification with *explicit* claim descriptions. For at least the reasons set forth above, the rejection made under 35 U.S.C. §103(a) over <u>Sharma</u> and <u>Wang</u> with regard to claims 1-12, 14, 16, 18-21, 23, 25-29, 31, 33-37, 39 and 41-42 is maintained.

Claim Rejections - 35 USC § 102

12.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13.   **Claims 1, 19, 27 and 35** are rejected under 35 U.S.C. 102(b) as being anticipated by **Sharma (U.S. Patent 6,353,675).**

With regard to claim 1, the claim is drawn to a method of analyzing a printed image,

comprising: scanning the printed image *(See Sharma, i.e. Column 5, lines 5-8)*; determining

spatial characteristics of the printed image *(i.e. Column 5, lines 17-19)*; statistically analyzing the

spatial characteristics of the printed image *(i.e. Column 5, lines 20-22)*; determining spatial

variations in the printed image based on the analyzed spatial characteristics and determining an

image marking process used to create the printed image based on the determined spatial

variations in the printed image *(i.e. Column 5, lines 22-26)*.

With regard to claim 19, the claim is drawn to a method of determining an image

marking process used to create a printed image, comprising: scanning the printed image *(See*

Sharma, i.e. Column 5, lines 5-8); determining spatial characteristics of the printed image *(i.e.*

Column 5, lines 17-19); statistically analyzing the spatial characteristics of the printed image *(i.e.*

Column 5, lines 20-22); determining local spatial variations in the printed image based on the

analyzed spatial characteristics and determining the image marking process used to create the

printed image based on the determined local spatial variations in the printed image *(i.e. Column*

5, lines 22-26).

With regard to claim 27, the claim is drawn to a machine-readable medium that

provides instructions for determining an image marking process used to create a printed image,

instructions, which when executed by a processor, cause the processor to perform operations

(See Sharma, i.e. Column 4, lines 18-29) comprising: scanning the printed image *(i.e. Column 5,*

lines 5-8); determining spatial characteristics of the printed image *(i.e. Column 5, lines 17-19)*;

statistically analyzing the spatial characteristics of the printed image; determining local spatial

variations in the printed image based on the analyzed spatial characteristics and determining the

image marking process used to create the printed image based on the determined local spatial

variations in the printed image *(i.e. Column 5, lines 22-26)*.

With regard to claim 35, the claim is drawn to a media/image marking process

identification system *(See Sharma, i.e. Claim 10, "a marking process determining system")* for a

printed page, comprising: a memory *(i.e. Column 3, line 32)*; and a media/image marking process

identification determination circuit, routine or application that identifies at least one of a media

type for the printed page or an image marking process used to process the printed page *(i.e.*

Column 5, lines 17-19), by processing the printed page to determine spatial characteristics of the

printed image *(i.e. Column 5, lines 17-19)*; statistically analyzing the spatial characteristics of the

printed image; and determining local spatial variations in the printed image based on the

analyzed spatial characteristics *(i.e. Column 5, lines 22-26)*.

Claim Rejections - 35 USC § 103

14.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

15.   **Claims 1-12, 14, 16, 18-21, 23, 25-29, 31, 33-37, 39 and 41-42** are rejected under 35

U.S.C. 103(a) as being unpatentable over **Sharma (U.S. Patent No. 6,353,675)** as applied to

claims 1, 19, 27 and 35 above, and further in view of **Wang (U.S. Patent No. 6,031,618)**.

With regard to claims 1-12, 14, 16 and 18, the claims are drawn to a method of

analyzing image. Sharma discloses an invention relates to the method and apparatus that

automatically identify the marking process (e.g. photographic, lithographic, ink-jet, line-on-line

xerographic or rotated-screen xerographic) based on at least one spatial characteristic of the

marked image *(See Sharma, i.e. Column 1, lines 41-48, Column 5, lines 5-32)*. Sharma further

discloses the analysis of "power spectrum" (or power spectrum density function/spectral density

function, or the amount of energy at each spatial/light frequency) by observing the attributes,

such as the *existence, position, and/or color of special peaks* in the power spectrum *(column 1,*

54-57); Sharma further discloses the limitations of: detection of the lithographic marking process

(or offset printing process) by examining "the specific screen frequencies" *(Column 2, lines 42);*

detection of the xerographic marking process by examining "the spectral peaks" and "absence of

color in the spectral peaks" *(Column 2, lines 61-67);* detection of ink-jet marking process by

examining "the rapid decrease in power and increase in frequency in the radial spatial frequency

as results of " the error-diffusion halftones and stochastic screens" being commonly used in ink-

jet printer *(Column 3, lines 9-25)*, additionally, Sharma discloses that "other known or later

developed spatial analyzing techniques, such as wavelet decomposition or the like, may also be

used by the image spatial analyzer to determine the spatial characteristics *(Column 6, lines 2-6)*.

Sharma also disclose the automatic aspect of marking process detection system, which does not

require information from the image spatial analyzer *(Column 6, line 13-17)*. Sharma further

discloses the limitations of determination of the color of the sensor cell of the detection process

to be interpolated in consideration of the neighboring cells *(as "local" examination aspect, at*

least until the further limitation on the claim language) (Column 6, lines 28-32).

Sharma does not *explicitly* disclose the limitations of determination of the marking

process *based on the statistical data (such as: Average, Mean, Min, Max, Minima, Maxima)*

collected from the scanned printed image; and the limitation of *setting the color attributes* based

on the results of detecting the marking process.

However, Wang discloses the limitations of determination of the marking process based

on the statistical data. Wang discloses the limitation of performing *statistical analysis,* which

may include *"averaging the attribute values obtained from the scans, major rule, and the like"*

(See Wang, Column 5, lines 40-52); Wang further discloses the limitation of correcting/setting/

calibrating using the correction values that are determined based on the attributes detected

(Column 6, lines 8-16).

Therefore it would have been obvious to one of ordinary skill in the art at the time of

invention to have modified Sharma to include the limitations of determination of the marking

process *based on the statistical data collected from the scanned printed image;* and the limitation

of *setting the color attributes* based on the results of detecting the marking process taught by

Wang. It would have been obvious to one of ordinary skill in the art at the time of invention to

have modified Sharma by the teachings of Wang to include the limitations of determination of

the marking process *based on the statistical data collected from the scanned printed image;* and

the limitation of *setting the color attributes* based on the results of detecting the marking process

taught by Wang *for" more accurate reproduction of the article" to be performed (See "Summary*

of Invention", column 2, lines 55-56).

With regard to claims 19-21, 23 and 25-26, the claims are drawn to a method of

determining an image marking process (used to create a printed image), comprising the identical

limitations recited in claims 1, 5, 8, 14, 16 and 18 respectively, discussed above *(The claims are*

rejected under the same ground for at least the reasons set forth above. See the detailed

discussion of the claims 1-12, 14, 16 and 18 above).

With regard to claims 27-29, 31 and 33-34, the claims are drawn to a machine-readable

medium that provides instructions for determining an image marking process used to create a

printed image, instructions, which when executed by a processor, cause the processor to perform

operations, comprising the identical limitations recited in claims 19-21, 23 and 25-26

respectively, discussed above. *(The claims are rejected under the same ground for at least the*

reasons set forth above. See the detailed discussion of the claims 1-12, 14, 16, 18-21, 23 and 25-

26 above. Furthermore, Sharma, *discloses the limitation of* implementation of the system as

computer software, *See i.e. Column 4, lines 18-29).*

With regard to claims 35-37, 39 and 41-42, the claims are drawn to a media/image

making process identification system for a printed page, comprising the identical limitations

recited in claims 27-29, 31 and 33-34 respectively, discussed above. *(The claims are rejected*

under the same ground for at least the reasons set forth above. See the detailed discussion of the

claims 1-12, 14, 16, 18-21, 23, 25-29, 31 and 33-34 above).

Conclusion

16.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

   A. Sharma et al. (U.S. Pub. No. 2004/0264768, XEROX) disclose methods and systems used

       to associate color calibration profiles with scanned images based on identifying the

marking process used for an image on a substrate using spatial characteristics and/or

color of the image.

B. Sharma et al. (U.S. Pub. No. 2004/0264769, XEROX) disclose methods and systems used

to associate color calibration profiles with scanned images based on identifying the

marking process used for an image on a substrate using spatial characteristics and/or

color of image.

C. Sharma et al. (U.S. Pub. No. 2004/0264770, XEROX) disclose methods and systems used

to associate color calibration profiles with scanned images based on identifying the

marking process used for an image on a substrate using spatial characteristics and/or

color of the image.

D. Sharma et al. (U.S. Pub. No. 2004/0264771, XEROX) disclose systems and methods for

associating color profiles with a scanned input image using spatial attributes

(characteristics).

E. Sharma et al. (U.S. Patent No. 6,525,845, XEROX) disclose a methods and apparatus for

modifying image data based on identification of marking process.

F. Sharma (U.S. Patent No. 6,088,095, XEROX) discloses an invention relates to a model-

based spectral calibration of color scanners.

G. Bala et al. (U.S. Pub, No. 2003/0168582, U.S. Patent No. 6,750,442, XEROX) disclose

an invention relates to a scanner scans a medium containing a color image, and the

spectrophotometric sensor interact with the scanner to aid in the automatic selection of a

scanner color correction corresponding to the medium being scanned.

H. Bestmann (U.S. Patent No. 5,481,380) disclose a method and apparatus for calibration of color values.

I. Reuman (U.S. Patent No. 6,069,982) disclose an invention relates to estimation of spatial noise characteristics associated with an image acquired from an unknown image acquisition device.

J. Ueda et al. (U.S. Patent No. 6,008,812) disclose an image output characteristic setting device.

K. Uekusa et al. (U.S. Patent No. 6,791,711) disclose an invention relates to image processing method for performing color processing in accordance with a plurality of image objects based on the analyzed relationships between the objects.

17.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
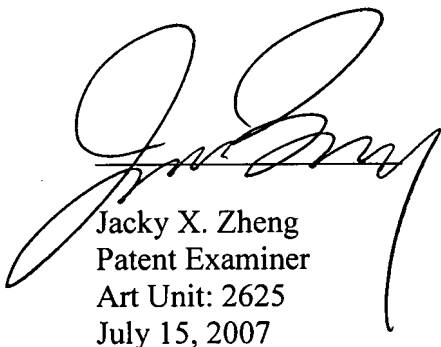
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

18.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Jacky X. Zheng whose telephone number is (571) 270-1122. The

examiner can *normally* be reached on Monday-Friday, 7:30 a.m.-5p.m., Alt. Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Twyler M. Lamb can be reached on (571) 272-7406. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jacky X. Zheng
Patent Examiner
Art Unit: 2625
July 15, 2007

TWYLER LAMB
SUPERVISORY PATENT EXAMINER